

REMARKS

Claims 1-19, 21 and 23 are pending in the application.

Claims 1-19 and 21 are rejected under 35 U.S.C. § 103(a).

Claim 23 is objected to.

Claims 1, 10, 14 and 23 are amended. Specifically, claims 1, 10 and 14 have been amended to incorporate subject matter previously recited in claim 23 (which was indicated as containing allowable subject matter in a previous Office Action) and which is not taught or suggested in the cited references. To the extent that the above-described amendments adopt the suggestions provided in the previous Office Action, Applicants respectfully request entry of the amendments. Applicants further note that arguments traversing the rejections of claims 10 and 14 are additionally presented below. Thus, even if the amendments to claims 10 and 14 are denied, Applicants respectfully request reconsideration of the rejection of claims 10 and 14 in light of the arguments presented herewith.

No new matter is added.

Applicants request reconsideration and allowance of the claims in light of the above amendments and following remarks.

Allowable Subject Matter

Applicants appreciate the indication of allowable subject matter in claim 23. Applicants hereby amend claim 1 to incorporate features of claim 23 which are not believed to be taught or suggested in the cited references. Accordingly, Applicants submit that claim 1 is in condition for immediate allowance.

Claim Rejections – 35 USC § 103

Claims 1-7 and 21 are rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over U.S. Patent No. 6,133,637 issued to Hikita, et al. (hereinafter “Hikita”) in view of Japanese Patent No. 63-240053 A issued to Kondo, et al. (hereinafter “Kondo”) and U.S. Patent No. 6,099,783 issued to Scranton, et al. (hereinafter “Scranton”). Applicants respectfully traverse this rejection. Applicants respectfully submit that the present amendment to claim 1 renders the present rejection of claims 1-7 and 21 moot.

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over Hikita in view of Kondo and Scranton, and further in view of Derderian (US 6,569,709). Applicants respectfully submit that the present amendment to claim 1 renders the present rejection of claims 8 and 9 moot.

Claims 10-13 are rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over U.S. Patent No. 6,215,182 issued to Ozawa, et al. (hereinafter "Ozawa") in view of Kondo and Scranton. Applicants respectfully traverse this rejection.

Claim 10 has been amended to incorporate subject matter previously recited in claim 23 (which was indicated as containing allowable subject matter in a previous Office Action). Neither Ozawa nor Kondo, singly or in combination, teaches or suggests at least the features currently amended into claim 10. Accordingly, Applicants respectfully submit that the combination of Ozawa in view of Kondo fails to render claim 10 obvious. See M.P.E.P. § 2143.03.

Further, maintaining the rejection of claim 10, the Office Action asserts that "the flexible material of Kondo would not be on the surfaces between the at least two semiconductor chips" because FIG. 5 of Ozawa shows wherein "the surfaces between two of the semiconductor chips (22, 23 or 24) have an adhesive 38 between them" and that "[o]nly the exposed upper surface of the next lower chip (23 or 24) does not have adhesive on it."

In view of the rationale outlined above, it appears as though the Office Action interprets, for example, the upper surface of the semiconductor element 24 as constituting two regions: one region covered by the adhesive 38 and another region exposed by the adhesive 38. Nevertheless, the two regions are part of the same upper surface of the semiconductor element 24. Thus, regardless of whether the upper surface of semiconductor element 24 is exposed by, or covered with the adhesive 38, the upper surface of semiconductor element 24 will always be between semiconductor elements 24 and 23. A similar analysis can be made with respect to the upper surface of semiconductor element 23.

As acknowledged in the Office Action, FIG. 2 of Kondo shows wherein the flexible material 9 is "formed on an entire upper surface and side surface of a chip 1." Accordingly, if Ozawa were modified pursuant to the teachings of Kondo, the flexible material 9 of Kondo would necessarily be formed on above-described upper surfaces of semiconductor elements 24

and 23 shown in Ozawa. Thus, the flexible material of Kondo would necessarily be formed on surfaces of semiconductor elements 24 and 23 that are between the pair of semiconductor elements 24 and 23 or between the pair of semiconductor elements 23 and 22. Thus, a structure that is expressly contrary to that which is recited in claim 10 would be formed. For at least these additional reasons, Applicants respectfully submit that the proposed combination of Ozawa in view of Kondo and Scranton fails teach every element as recited in claim 10. See M.P.E.P. 2143.03.

Claims 11-13 depend from claim 10 and, therefore, include all elements recited in claim 10. Accordingly, Applicants believe claims 11-13 to be in condition for allowance by virtue of this dependency.

Claims 14-16 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Hikita in view of Scranton. Applicants respectfully traverse this rejection.

Claim 14 has been amended to incorporate subject matter previously recited in claim 23 (which was indicated as containing allowable subject matter in a previous Office Action). Neither Ozawa nor Kondo, singly or in combination, teaches or suggests at least the features currently amended into claim 14. Accordingly, Applicants respectfully submit that the combination of Hikita in view of Scranton fails to render claim 14 obvious. See M.P.E.P. § 2143.03.

Further rejecting claim 14, the Office Action asserts it would have been obvious to “modify the soft element of ... [Hikita] by using an encapsulant material having no filler as taught by Scranton to form a soft element having a putty-like property.” Applicants respectfully disagree.

For example, at column 6, lines 25-27, Hikita discloses that the inner package 26 “is formed of ... epoxy resin with a filler to increase its moisture resistance.” Even if the inner package 26 of Hikita could be modified to have a “putty-like property” as proposed, Applicants respectfully submit that such a modification would involve removing the filler expressly provided for by Hikita. As a result of the proposed modification, Applicants respectfully submit that the moisture resistance of the inner package 26 without filler would be decreased relative to the moisture resistance of the inner package 26 with filler. Thus, the susceptibility of chips 14 and 16 to moisture would necessarily be increased, rendering the semiconductor device 10 of

Hikita unsatisfactory for its intended purpose. For at least these additional reasons, Applicants respectfully submit that there is no suggestion or motivation to make the proposed combination of Hikita in view of Scranton. See M.P.E.P. 2143.01(V).

In the “Response to Arguments” section, the Office Action asserts that the above-identified arguments are not persuasive because the rejection does not rely on the embodiment shown in FIG. 9 (which incorporates the inner package 26) but, rather relies on the embodiment shown in FIGS. 1-6 and “described in and beginning in column 4 and ending at line 55 of column 5.” Applicants respectfully submit, however, that the rejection of claim 14 relied on the embodiment shown in FIG. 9. To wit, the rejection of claim 14 states that “Hikita... disclose... forming a soft element (26) on at least one side of at least one of the at least two chips....” The embodiment shown in FIGS. 1-6 of Hikita does not disclose the inner package 26. Rather, the inner package 26 is described only with respect to the embodiment shown in FIG. 9. Moreover, Hikita discloses at column 6, lines 20-25 that the embodiment shown in FIG. 9 “is structured similarly to the embodiment of FIG. 1 to FIG. 6 except that an inner package 26 is formed....” Accordingly, while a portion of the rejection of claim 14 relies upon a disclosure that is common to both the embodiment shown in FIGS. 1-6 and the embodiment shown in FIG. 9, the rejection, when viewed in its entirety, relies upon the embodiment shown in FIG. 9.

Applicants also note that the rejection of claim 14 asserts that “it would have been obvious ... to modify the soft element of Hikita by using an encapsulant material... as taught by Scranton....” Such a proposed modification to the teachings of Hikita is further evidence that claim 14 was rejected based on the embodiment shown in FIG. 9.

Applicants also note that claims 15 and 16, which depend from claim 14, were also rejected based on the embodiment shown in FIG. 9. This is further evidence that claim 14 was rejected based on the embodiment shown in FIG. 9.

In view of the above, Applicants respectfully submit that the rejection of claim 14 is based on the embodiment shown in FIG. 9 – not the embodiment shown in FIGS. 1-6. Accordingly, the arguments presented above with respect to the rejection of claim 14 are valid and persuasive for showing that the combination of Hikita in view of Scranton fails to render claim 14 obvious. See, e.g., the Office Action at the last three lines of page 10.

Claims 15 and 16 depend from claim 14 and, therefore, include all elements recited in claim 14. Accordingly, Applicants believe claims 15 and 16 to be in condition for allowance by virtue of this dependency.

Claims 17-19 are rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over Hikita in view of Scranton, and further in view of Kondo. Applicants respectfully traverse this rejection.

Claims 17-19 depend from claim 14 and, therefore, include all elements recited in claim 14. Accordingly, Applicants believe claims 17-19 to be in condition for allowance by virtue of this dependency.

CONCLUSION

For the foregoing reasons, reconsideration and allowance of claims 1-19, 21 and 23 of the application as amended is requested. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,

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